

Name \_\_\_\_\_

Pick a Project

Project 12A

## Tree Houses

Have you ever dreamed of having your own space high among the trees? Imagine a place where you and friends can get away from it all.

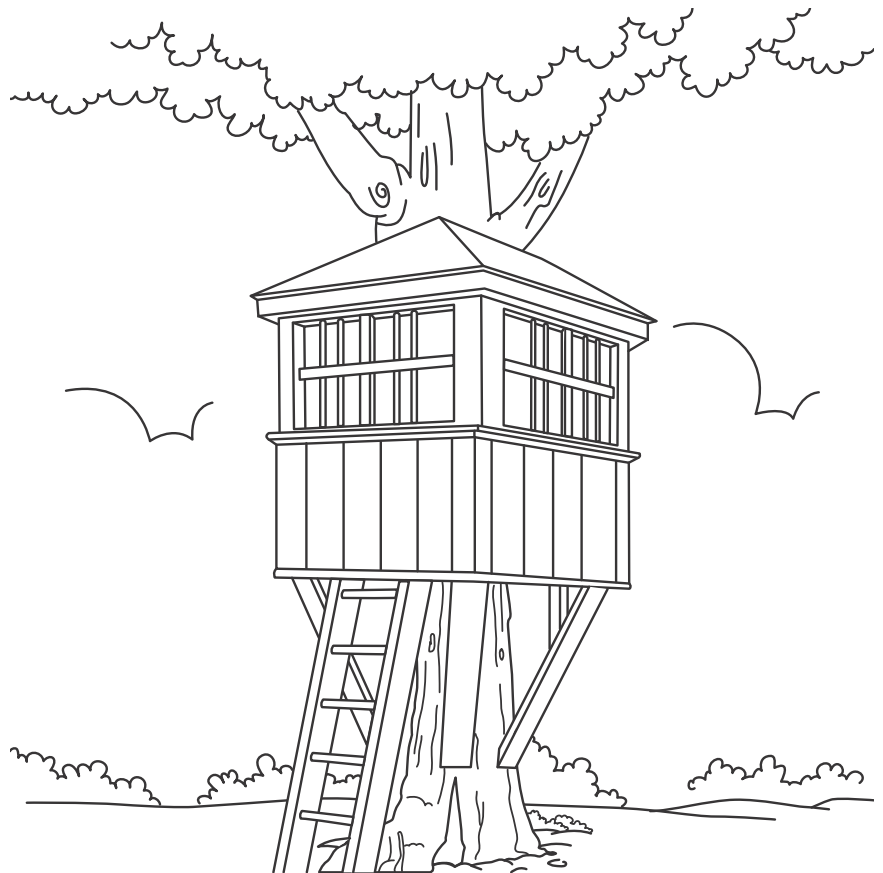
Tree houses have become more elaborate and more than just a place for kids. The world's largest tree house was built by a minister in Tennessee. It has over 10,000 square feet of space, is 97 feet tall, and has five stories and 80 rooms. The minister says the tree house is still not finished! One 85-foot tall oak tree with a 12-foot wide trunk is the main support for the tree house, with six other trees helping out.

Did you know that in some parts of the world, everyone lives in tree houses? For example, in New Guinea, the Korowai people live in tree houses all the time. Living in tree houses helps keep them safe from flooding.

### Your Project Build a Model of a Tree House

You have been hired to help finish the construction of a new tree house that has an area of 18 square yards. Your job is to install 13.2 square yards of wood flooring and 4.8 square yards of tile flooring.

Ask an adult to help you make a model or diorama of the tree house. Make a chart with the list of amounts of materials needed, and some interesting facts about the tree house.



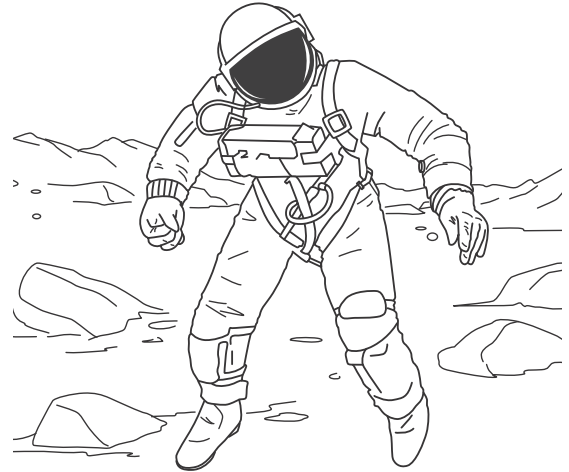
Name \_\_\_\_\_

Pick a Project

Project 12B

## Our Solar System

Why do objects weigh less on the moon than on Earth? Gravity! Weight is a measure of the force of gravity pulling on an object. Because the moon is much smaller than Earth, its gravitational pull is about  $\frac{1}{6}$  of Earth's. So, objects on the moon weigh much less than they weigh on Earth. Because astronauts weigh so much less on the moon, they move across the moon's surface quite differently than on Earth. It is easier to do a hopping run on the moon than it is to walk.



Did you know that objects on the top of a mountain weigh less than they do at sea level? As the distance between you and Earth's center increases, the pull of gravity becomes less. If the pull of gravity is less, so is the weight.

Jupiter is the largest planet, and the pull of gravity on Jupiter is about 2.5 times as strong as on Earth. An object that weighs 100 pounds on Earth would weigh about 252.8 pounds on Jupiter. In outer space, there is no gravity. If you were floating around in space, you would weigh nothing!

### Your Project Make a Mobile Display of the Solar System

Ask an adult to help you with your project. Find the weight of three different objects, such as an apple, a book, and a rock. Use the chart to find the weight of each object on the other planets. Create a mobile of the solar system and attach a list to each planet showing the weight, in pounds and ounces, of each object on that planet.

Planet	Multiply the Weight on Earth by:	Planet	Multiply the Weight on Earth by:
Mercury	0.4	Venus	0.9
Earth	1	Moon	0.17
Mars	0.4	Jupiter	2.5
Saturn	1.1	Uranus	0.8
Neptune	1.2		

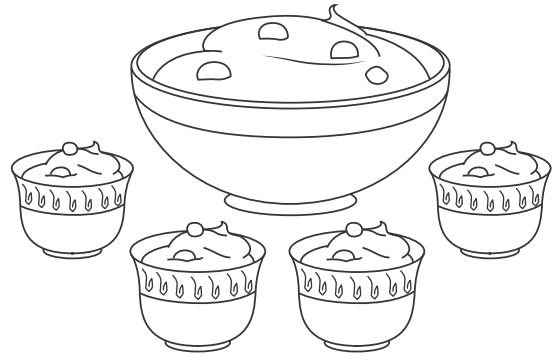
Name \_\_\_\_\_

Pick a Project

Project 12C

## Punch

Have you ever heard of National Punch Day? Observed each year on September 20, it is listed as an American Food Holiday. The idea for punch is really old. The recipe for punch was brought from India to England early in the seventeenth century. From England, the idea of punch spread to other places. The word *punch* is from the Hindi word *punch*, which means five. The first recipe for punch was made with just five ingredients.



In 1934, three people named Leo, Yates, and Harrison made the first Hawaiian Punch recipe in a garage. They wanted a fruity topping for ice cream. Kids liked the new Hawaiian Punch better mixed with plain water. Twelve years later, the first Hawaiian Punch drink was sold. Today, healthy punches are often made with all kinds of fruits and fruit juices.

### Your Project Plan a Class Party

Ask an adult to help you plan a class party with healthy snacks and punch. Write a party plan, and create a punch recipe for 30 students. Start from the recipe below, which is for six people. Since you are planning for 30 people, you will need to convert measurements to larger metric units.

#### Orange Punch (serves 6)

- 400 mL orange juice
- 400 mL pineapple juice
- 140 grams of peeled oranges, cut into 1-inch pieces
- 140 grams of pineapple, peeled and cut into 1-inch pieces
- 118 mL mango juice
- 118 mL passion fruit nectar
- 30 mL lemon juice
- 30 mL lime juice
- 6 mL vanilla



Name \_\_\_\_\_

Pick a Project

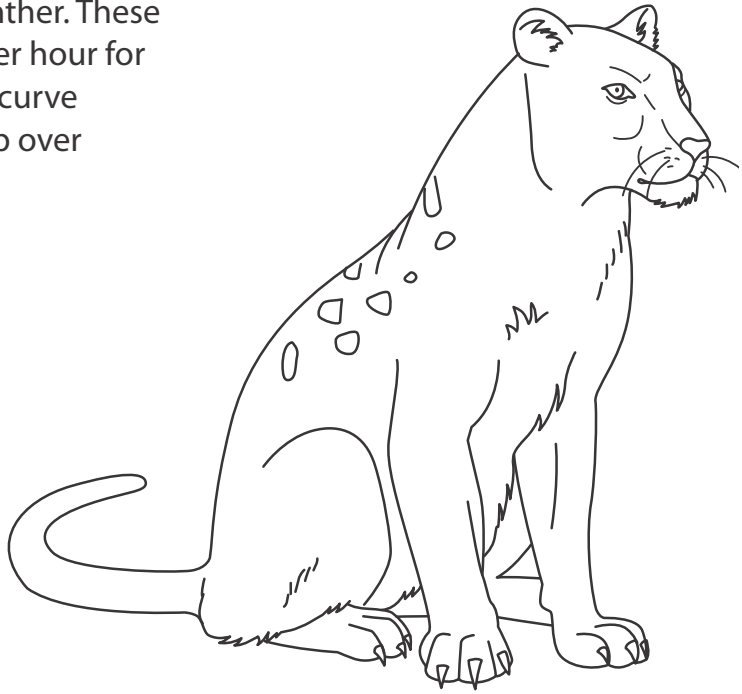
Project 12D

## Florida Panthers

Florida's state animal is the Florida panther. These amazing cats can run up to 35 miles per hour for a few hundred yards! Their spines can curve when they run, so they can easily jump over bushes, rocks, or anything else in their way. Male Florida panthers weigh 145 pounds on average, and females have an average weight of 85 pounds. They can jump 15 to 18 feet up into trees, and can leap forward up to 45 feet. They can even climb 12-foot-high fences!

Florida panthers are very shy. They avoid daytime heat by traveling at night. Males need around 200 square miles to roam, and females need about 75 square miles. Even though Florida panthers can run very fast, they save those high speeds for hunting. They pace themselves when they are roaming and can cover about 20 miles a day.

Long ago, Florida panthers lived all over the southeastern United States. In the 1600s, the people who settled there cleared the land. In so doing, they took away most of the panthers' habitat. Today, panthers are on the list of endangered animals, and there are only around 230 left in all of Florida.



### Your Project Design a Space for Florida Panther Cubs to Live

Two female panther cubs that weigh about 70 pounds each were found. You have been hired by the zoo to design a meal plan and an enclosure for the cubs to live in for a year. Plan and draw a square area one-half mile long on each side, with a fence 13 feet high. Builders need to know how to convert units of length, as fencing is sold by the foot. Panthers are meat eaters, and eat about five percent of their body weight each day. Write a materials list for the number of yards of fencing and pounds of food that will be needed. Ask an adult to help you. Include fun facts and information about Florida panthers, and illustrate your plan.